

## ABSTRACT

An arc fault protection device protects a branch circuit portion of an electrical distribution system. The branch circuit is connected to a load. A first sensor detects fluctuations in load current, while a second sensor detects fluctuations in line voltage. The polarities of the fluctuations are compared, and the comparison indicates whether an arc signature, potentially indicative of an arc fault, is located in the branch circuit portion or located in a remainder of the electrical distribution system.

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